

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A moving-magnet-type linear slider comprising:
a linear guide which movably supports and guides left and right sides of a table arranged parallel with and opposite to a fixed base wherein the linear guide includes a slider and a guide rail;

a linear motor which reciprocally moves the table in a longitudinal direction over the guide rail relative to the fixed base, wherein the linear motor comprises an armature having an multi-phase armature winding wire wound on an armature core serving as a magnetic circuit fixed on the fixed base, and a permanent magnet for a magnetic field, the permanent magnet being attached on the table and arranged opposite to the armature interposing a magnetic gap; and

detecting means for detecting a relative position of the table and the fixed base, wherein the detecting means comprises a linear scale fixed to the table and a sensor head which detects the linear scale, the sesnsor head being attached on a fixed base side; and

a magnetic-pole detector which detects a relative position of the armature and the permanent magnet for a magnetic field and arranged on an opposite side of the linear scale with respect to the table,

wherein the magnetic-pole detector includes a hall element fixed on the fixed base side, and a magnetic-pole detector magnet fixed on the table side so as to have an equal pitch as the permanent magnet for a magnetic field

echaracterized in that

the linear motor comprises an armature having an multi-phase armature winding wire wound on an armature core serving as a magnetic circuit fixed on the fixed base, and a permanent magnet for a magnetic field, the permanent magnet being attached on the table and arranged opposite to the armature interposing a magnetic gap;

~~the detecting means comprises a linear scale portion fixed to the table, and a sensor head which detects the linear scale, the a sensor head being attached on a fixed base side, and~~

~~the armature is arranged such that a thrust center axis where a thrust of the armature is generated is substantially coincident with a center axis of a space between the left and right guide rails.~~

2. (canceled).

3. (previously presented) The moving-magnet-type linear slider according to claim 1, characterized in that the fixed base is provided with a mounting hole for attaching the moving-magnet-type linear slider to an external apparatus, wherein the mounting hole is formed in a position outside or inside of the guide rail.

4. (previously presented) The moving-magnet-type linear slider according to claim 1, wherein the sensor head includes a serial-signal conversion circuit which converts a scale signal of the linear motor output from the detecting means into a serial signal.

5. (previously presented) The moving-magnet-type linear slider according to claim 4, characterized in that the sensor head has a memory into which a motor parameter of the linear motor is input, wherein, when the linear slider and a driver are connected together, the motor parameter is also converted into a serial signal by the serial-signal conversion circuit, and the serial signal is transmitted to the driver.

6. (previously presented) The moving-magnet-type linear slider according to claim 1, characterized in that the linear scale mounts thereon an absolute-type encoder which detects an absolute position signal of the linear-motor mover.

7. (previously presented) The moving-magnet-type linear slider according to claim 2, characterized in that the moving-magnet-type linear slider further comprises a serial converter which converts a scale signal of the linear motor output from the detecting means and a magnetic-pole detection signal output from the magnetic-pole detector into serial signals.

8. (previously presented) The moving-magnet-type linear slider according to claim 7, wherein the sensor head has a memory into which a motor parameter of the linear motor is input, wherein, when the linear slider and a driver are connected together, the motor parameter is also converted into a serial signal by the serial converter, and the serial signal is transmitted to the driver.